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Making the Case: collaborative concept development of products and services for a new design museum

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Abstract

This paper describes the role practice-led research has played in identifying an opportunity for innovative organizational progress (for a globally recognized museum), and discusses one role of practice-led research in product and service development for the new business. It looks at why collaborative research is employed to explore concept development, how this is being investigated and what the insights thus far indicate. Two projects are discussed, one in the area of curatorial practice for communicating design and craft innovation and, the other in the design of residency programmes in terms of nurturing innovation in design and craft practices. The design of knowledge exchange is presented as a context for concept development and why collaborative research is used as a means of exploring design as a core business competency; a visioning tool shaping company developments for achieving sustained growth. Case Study as a methodology is applied to investigate the concept development phase of innovation especially in terms of researching the actors within the design activity and the context within which the activity takes place. The paper closes by sharing the insights gained from the collaborative research and presents six values emerging from the collaborative research thus far.

Keywords:

concept development; museum environment; collaboration; knowledge exchange; design.

Introduction

The landscape of design is changing and while it is difficult to say with any degree of certainty where the discipline is headed, there is no doubt a new chapter has begun. Change will certainly build on the 40 (plus) years of international investment made in academia to characterize design research (and, by default typify the values and value of design and designers themselves) while mindfully considering the needs of people and the rapid developments in technology.

Amidst this change is a tension identified through the lead author's research into communication of design and craft thinking (2004-14), specifically the relationship between a traditional product-design framework (with its associated services) and, the growing service design processes and products agenda. The two viewpoints have different value systems. They both have a rightful, equal place in education and industry, yet understanding the emerging relations is a work in progress.

Why is deeper understanding of this relationship important? Analysis suggests there are at least two reasons: its impact on the development of skills, knowledge and expertise – and its use in building strong links with enterprise, and communication with the general public - design arguably cannot reach its optimum employment if a large degree of ambiguity exists in its communication to people and sectors in terms of what it does and why it does it.

This paper describes the role practice-led research has played in identifying an opportunity

for innovative organizational progress, and discusses one role of design research in product and service development for the new business. It looks at why collaborative research is employed to explore concept development, how this is being investigated and what the insights thus far indicate.

Design Innovation: identifying a need for concept development

Research and development is a critical component of business innovation and this is no different for an arts organization, a museum for example, than it is for a leading business such as Apple, Philips or Toyota. Through design and craft research (entitled 'Past, Present and Future Craft Practice' which was conducted over five-years, 2005-10) new knowledge and insights contributed to the emergence of an idea for innovative organizational development (Follett & Valentine 2010; Valentine & Follett, 2010). Through the ambition of a newly formed strategic partnership and interdisciplinary team, the idea was mobilised in 2009 and is being developed into an opportunity called 'V&A Dundee' [1] (Figure 1). How can design reach its full potential if there is a lack of knowledge and understanding about what it is, what it does and what it has done to improve the world we live in? Where can people go in the UK, outside of London and in Scotland specifically, to engage and learn about design, its heritage and its capacity to nurture innovation and by definition, cultural and economic growth? Both of these challenges (and others) are met through the concept of 'V&A Dundee'.



Figure 1. V&A Dundee. ©KKAA/Design Dundee Ltd.

In addition to contributing to the emergence of an innovative organizational idea, the research council funded project developed a number of opportunities for product and service innovations (Valentine, 2010a; 2010b; 2011a; 2011b; 2013): one in the area of curatorial practice for communicating design and craft innovation [2] and, the other in the design of residency programmes in terms of nurturing innovation in design and craft practices. These outcomes are being further investigated through two collaborative doctoral awards [3]. They are used to exemplify design research for concept development of a new product and service for the emerging museum. Before looking at these examples, further contextual information is provided to support understanding of the framework employed for

nurturing concept development.

The Design of Knowledge Exchange for Concept Development

Our knowledge of the world we live in is continually growing. The rapid development of concepts, culture, materials, methods and technologies offer an unprecedented era of design. In the U.K this new knowledge has derived, in part, from a shift in context; we have moved from a country and an economy excelling in mass-manufacturing capabilities to one where service(s) and servicing is beginning to enter centre court. This shift is further compounded by the ensuing rise of 3D printing and its impact on design and manufacturing. The importance of change to this paper is its profound influence on design, designers and designing with strategy, process and methods taking precedent over product in its traditional manufacturing sense.

As the transformation in design's value is widely discussed and debated (Borja de Mozota, 2006; Brown, 2009; Buchanan, Doordan & Margolin, 2010; Evans, 2011; Fry, 2009; Inns, 2010; Inns, Baxter & Murphy, 2006; Jahnke, 2012; Kimbell, 2009, 2011; Krippendorff, 2006; Redstrom, 2006; Stickdorn & Schneider, 2011; Yee, Jeffries & Tan, 2013), it is not the purpose of this paper to describe the change, rather to acknowledge and present it as a given in this research. What is note-worthy is a major feature of the emerging and emergent new problems is there is no previous example to learn from; they are extremely complex requiring radical thinking and intense trans-disciplinary collaborations for their solution (Peat, 2008; Brown, 2009; Bruce & Baxter, 2013).

A major challenge set by this shift in perspective is the new knowledge generated is predominantly understood by the design sector itself. However, what good is this new design knowledge if nobody uses it, understands it or even knows it is out there? And with the highly turbulent real-world environment - its increasingly complex problems with unknown solutions - how can designers and design researchers help this situation if they do not recognize what business, culture and society really needs to know?

In designer's thinking, ensuring there is sufficient respect and disrespect for heritage and innovation is a continuing responsibility (Valentine, 2004; 2011a); it's not a new conundrum but the highly complex, digital and technological context in which problems sit today, means there is a new layer of responsibility integrated into the system of designing.

Interdisciplinary teams and collaborative projects have increased in both size and ambition. Certainly within Higher Education in the UK, this increase has been fuelled by government investment and, in Industry because of globalization and the affects it has collectively undergone these past five years especially. In academia, our subsequent priority is arguably leading cultural change and assessing how we embed and make effective the use of design at all levels of business, across the sectors, including our own i.e. education

This is where sharing knowledge and exchanging skills and expertise plays a critical role. Interdisciplinary teamwork can broker connections between people, places and problems in order to help us create a better world. Currently, in the UK's Research Councils, it is popularly referred to as 'knowledge exchange' (KE). It is a way of working that removes unnecessary barriers between subjects, specialists and knowledge domains to help identify, manage and resolve the increasingly complex problems we face today: it encourages people to leave unnecessary intellectual baggage at the front door of the collaborative 'house' – which can often arrive disguised as 'ego'. KE is not a new phenomenon; as a subject, one simply has to refer to business, ethics and management journals to realize its history. In the context of design, KE is an inherent aspect of the socially dynamic process and the rich culture within which it intervenes; it is an activity engaged with in many ways across many

situations. Indeed, one simply has to participate in conversation with the sector to appreciate the part it plays in today's market and emerging markets (see for example, the work of FROG design and IDEO).

In the collaborative research referred to in this paper, 'knowledge exchange' is used to describe the multi-dimensional exchange of skilled people, knowledge and expertise between the design community and those who use and wish to use design. It covers the processes by which knowledge, expertise and skills are exchanged between the design sector, its users and potential communities to contribute to economic competitiveness, effectiveness of design policy, and quality of life.

The concept development research for Design Curation draws on the doctoral researcher's background in creative arts, humanities and jewellery design, while the concept development research for the service design associated with a new residency programme draws on the doctoral researcher's knowledge and expertise of photography, creative arts and design management. Both studies learn from the knowledge and expertise of the partner organisations. Knowledge of the culture and philosophy underpinning the founding partner, V&A (London) is incorporated into the concept development process, as is knowledge and expertise of the culture and philosophy of visual research at the art school within the host University (of Dundee). In addition, the international museum and academic institutions offer organisational infrastructure: V&A offers, for example, tangible learning and outreach strategies for engaging diverse audiences, curatorial programming, and enterprise strategies. The University of Dundee offers, for example, a research and development infrastructure, research-led enterprise capabilities and policy development. Together they contribute to the framework, resources, time and rigour required to fully investigate new product and service design in advance of V&A Dundee's completion, intended for 2016 [4]. The knowledge exchange in the partnership and collaborative research is created to explore design as a core business competency; a visioning tool shaping company developments for achieving sustained growth.

In this next section, a brief overview of each of the doctoral studies is offered, followed by a broader discussion of case study methodology. For reasons of brevity, and as these studies are currently in progress, this section seeks to open discussion and present insight into the use of case study methodology as a framework for concept development research.

Curatorial Practice for Communicating Design Innovation

Understanding of the transformation in design's value arguably remains underdeveloped beyond the design industry and academia. The ambition for meaningful audience engagement and learning within public museums indicates a productive domain in which to begin addressing this imbalance. A core aim of V&A Dundee is to reflect and respond to the legacy in Scotland of past designers, companies and partnerships, allowing the scale and intricacies of innovation through design to be seen on an historical spectrum that also projects forward to inform future practices. This doctoral research examines curatorial methodologies and exhibition practices for design, arguing that if the changes in design and its strategic value are to be explored, understood and enjoyed within a modern museum context, then existing approaches need to be investigated, evaluated and potentially redesigned.

If curation was once seen as the scholarly collection, preservation and presentation of artworks and objects, it now includes being characterised as an active artistic and authorial practice (Farquarson, 2003; O'Neill, 2012), a mode of inquiry (Drabble as cited in Graham & Cook, 2010; Fernández, 2011; Rogoff, 2010), and a means of facilitating and producing

relationships between people and different forms of creative practice (Smith, 2012). Curatorial practice for design - being primarily based on models from art practice - has yet to be fully articulated. Exhibitions, although not the sole outcome, nevertheless are a prevalent manifestation of curatorial practice. A contextual review undertaken of the subject suggests that preoccupation with product design, the lionization of the 'hero' designer, and a focus on aesthetic or functional concerns are just some common aspects of design exhibitions; these emphases arguably inhibit a more nuanced discussion and elaboration of strategic design processes. In addition, as authoritative or transmission modes of communication within museums begin to change with the recognition of the interpretive agency of the visitor (Hooper-Greenhill, 2011), approaches for sharing knowledge and collectively exploring the complexity of design become opportunities for organizational innovation.

For curatorial teams, these communicative developments and the new forms and theories of design pose challenges, as the display of outcomes may not be possible or desirable. The outcome of a service design process for example may be an improved interaction or user experience (Stickdorn & Schneider, 2011). The value of these design processes is more intangible and arguably becomes difficult to capture and present in traditional exhibition formats. The research must question the extent to which new conceptions of communication and design ask for a reconsideration of the purpose of the exhibition, and of what it means to 'curate' design. For museums committed to developing wider understanding and appreciation of design, interest in tackling these issues is growing, but there is still work to be done to establish a firm base in academic design research.

This research uses case study methodology to bring together the broader contexts of museum practice, design research and curation with the specificities of a small number of 'cases' of curatorial practice, chosen through purposeful sampling. A hermeneutic approach (cf. Alvesson and Skoldberg, 2009; Crotty, 1998; Laverly, 2003) is adopted, as the study seeks to bring together the 'products' of curatorial practice (such as exhibitions) with the interpretive horizons of the researcher, and those of individuals and teams engaged in curatorial projects. This aims at opening up the multiple interpretive layers within each case, leading to a deeper understanding of the personal and collective values and characteristics that are reflected in curatorial methodologies. Verganti and Öberg (2013) suggest that innovation, when explored through the framework of hermeneutics, can be seen as a process of interpreting (developing meaningful scenarios) and envisioning (imagining experiences, rather than answering existing needs). With a hermeneutic framework then, it is possible to both interpret existing practices, and learn from these to project forward, to envision new experiences. Existing cases can be examined and questioned; offering deeper understanding of the past and present, and new possibilities can be envisioned; through an exploration of new meanings for products and services being designed for the future.

The research also employs the notion of prototyping to conceptualise curatorial practices, in order to investigate how 'scenarios of meaning' (Verganti & Öberg, 2013) are developed and to examine how and why innovation occurs in particular cases. Michael Schrage (2013) suggests that prototyping is a means of 'crafting interactions': it is the creation of places for people to gather around different types of artefacts - tangible, digital or conceptual. For Schrage, prototypes are hypotheses, marketplaces and playgrounds: ideas to test; spaces where value is negotiated and exchanged; and spaces for play, structured and unstructured. Each of these descriptions reflects qualities of exhibitions and other curatorial outcomes. These notions of prototyping and the prototype allow the researcher to seriously play with conceptual framing of the curatorial design process, to build criteria for evaluating innovation. In the development of new products and services for an emerging museum, it is

necessary to be playful with existing concepts, allowing provisionality, physical and conceptual exploration and co-creation to be considered as part of framework for evaluation.

Design Residencies: concept development for new products and services

From 2005 to 2010 there was a noted 40 per cent rise in the total of freelance designers in the UK, with totals reaching over 65,000 in numbers (Design Council, 2010). This figure contributes to the 8.4 per cent of the population recorded to be working in the creative industries in 2010 (Bakhshi, Freeman & Higgs, 2013). The Department for Business, Innovation and Skills and the Department for Culture, Media and Sport have advocated that the creative industries, which total 5.6 per cent of UK GDP, will be a critical area for growth in the current times of austerity (Kendall, 2011). In response to these changes in the socio-economic landscape, museums have been working more strategically with creative industries, investigating the benefits of interdisciplinary exchange of resources and audiences (Kendall, 2011), and constructing hubs for the advancement of professional creativity (Bishop, 2004). This has led to a substantial increase in the provision of residencies provided by cultural and creative organisations, which aim at nurturing the professional capacities of the designer (e.g. Designer in Residence at the Design Museum, London; Designers in Residence at the University of Northumbria; and Fashion Foundry with the Cultural Enterprise Office, Glasgow). However, despite progress being made in terms of provision, there remains limited research conducted on the design and effectiveness of this service and the current discussion in industry journals criticises programmes for lacking in consideration and preparation (Grey, 2009).

One of the few definitions of residencies in circulation articulates the concept as 'schemes in which artists of all kinds – poets, composers, dancers, painters, craftspeople, photographers, filmmakers, and so on – work outside their 'normal' working circumstances and in contact with people who may not be considered to be an 'arts audience' in any conventional sense' (Stephen, 2009, pp. 43-44). This definition is limited to artistic practice and those residencies that tend to learning and engagement strategies. It excludes the residency models which consider the programme as a means for developing the business capacities of the practitioner in residence and the models which have the practitioner in isolation from social and economic distractions to develop new creative outputs or an exhibition. The various frameworks that have been collated and examined through a rigorous contextual review offer a malleable understanding of residency. Specifically, residencies offer creative practitioners the time and resources to innovate in practice, subsequently resulting in objects, events or services that the resident, participating individual and host organisation benefit from.

Using the V&A Dundee as the context for the investigation, this research aims at demonstrating how design research might be employed in the concept development of new products and services for an emerging museum. The research intends to discover the strategies that can structure a residency programme which supports the development of innovation in practice, both at an individual and organisational level. Therefore, the methodology has been devised to capture and analyse existing residency practices whilst prototyping and testing a new model of provision. As an inter-disciplinary project, the research exploits the strength of design research, specifically the ability to adapt methods and methodologies from other fields to develop new discipline specific research paradigms (Chow, 2008), and the belief that design is projective and powered by its ability to create new possible futures (Jonas, 2001; Krippendorff, 2006).

The research employs a case study methodology for the concept development of a new model of practice and it intends to provide a detailed and in depth account of the

knowledge accumulated through a single exemplification (Robson, 1993; Yin, 2009). As part of the field research, a six-month placement at the Victoria & Albert Museum in London offered the opportunity to gain an understanding into the nature and phenomenon of residencies through use of heuristic research (Moustakas, 1990). This placement allowed for the researcher to: immerse herself in the museum environment; observe the events associated with the residency; interview the individuals participating in the programme; assess the importance of the residency with the Museum's visitors; analyse relevant organisational documents, all of which provided rich empirical data from which to analyse and evaluate a residency programme in operation. In addition, the placement offered an example through which to discuss the traditional and growing frameworks for design.

The projective aspect of the design research in the case is powered by the advancement of prototyping in generative design thinking activities to facilitate and cultivate the design of services that truly represent those which are possible in real world practices (Simonsen & Hertzum, 2010). The research employs the Participatory Prototyping Cycle, a method for using the prototyping process beyond physical construction to a convivial tool and a model for co-creation (Sanders, 2013). Concept development of a new residency model will be drawn from the ideas and conversations with individuals chosen through judgement sampling (Burgess, 1984). Insights gleaned from the field research will be conveyed to V&A Dundee and the Victoria & Albert Museum London through knowledge exchange sessions, research seminars and reports.

Case Study: research methodology

In both of the aforementioned doctoral studies, Case Study as a methodology is applied to investigate innovation, specifically the concept development phase. Case study is a research *method* sitting along side experiments, surveys, archival analysis and histories, (Yin, 2009[5]) and it can also be considered as a *methodology* much like Narrative Research, Phenomenology, Grounded Theory and Ethnography (Creswell, 2013). The main paradox of case study research is that it is widely used but often held in low regard by the research community (Flyvbjerg, 2013; Gerring, 2007). Many elements contribute to this conflict, much of these are deep rooted in wider contexts of social science research and often stem from fundamental differences within various research traditions (Langrish, 1993) and the existing qualitative-quantitative divide in some social science research communities. Case studies have been noted as a practice not worthy of regard as a 'rational, scientific venture' (Miles, 1979, as cited in Yin, 1981, p.58). The dismissive attitude could be due to a lack of consensus in regards to the definition of the term 'case', and the other terms associated with case analysis, even though case study as a practice is prolific and central to social science discourse (Ragin, 1992). The strength of case study is in its ability to be malleable, and in its use as an applied method for both qualitative and quantitative social science research. However, the flexibility and adaptability of the case study can cause much disagreement even amongst advocates. Whereas some research states that multiple cases are vital to the generation of new theory, with high levels of empirical validity (Eisenhardt, 1989; Eisenhardt, 1991), others would argue that research which uses multiple cases are too concerned with developing methods of analytical measurability, and lack the rich and informative context needed to support new theoretical constructs (Dyer & Wilkins, 1991).

Case study is well established, yet as a method for design research Breslin and Buchanan state, "designers have not yet made the leap to writing and using case studies as an important part of design education and research development" (2008, pp. 37-8). A number of reasons are cited for this, including: a reticence to allow outsiders into the product development process; a tendency to see individuality rather than universal ideas within the

designers process; and the business-focused form of existing case reports that obscures other aspects of design practice. Dorst (2008) contributes to this discussion noting in design research's bid to produce universally validated models and tools, too much investment has been directed towards the design processes, to the neglect of three prime aspects of creative endeavour: the object of activity (i.e. the problem and its emerging solution); the actors within the activity (i.e. the designer or team); and the context within which the activity takes place.

Conducting "an intensive analysis of an individual unit (as a person or community) stressing developmental factors in relation to environment" (Flyvbjerg 2013, p 169) would appear to be an appropriate approach for gaining valuable knowledge about the practices of design, problematizing the notion that generalization is a necessary result of research. Nuanced understandings, valid within one context, may be transferable to others, but generalising on the basis of specific cases should not always be the goal of social research. Flyvbjerg (2001; 2013), Stake (2003) and Dorst (2008) argue for gaining in depth and particular understanding of current or past situations, in order to create a strong foundation for their respective disciplines. However, if the aims of design research are to project forward, to create possible future products, services and experiences, then, as design researcher Rosan Chow (2008) argues, Case Study becomes inadequate. Chow asserts it is unsuitable for the projective domain of the design process, and that projection is the most distinctive aspect of designing. There is a difficulty here for doctoral research, which most commonly explores existing or past design practices in detail. While case study is a legitimate and effective approach, this research team has a responsibility to the industrial sponsor, which seeks insight towards the creation of innovative forms of learning and engagement in the museum environment.

Chow continues to develop the concept and method of Case Transfer as a means of exploring the possibilities of design innovation, through transferring principles and qualities of design across different contexts (e.g. Chow, 2008; Chow, Jonas and Schaeffer 2009; Chow & Jonas 2010; Chow 2013; Press, Bruce, Chow and White 2011). In a manner similar to Flyvbjerg and Stake, she argues for questioning 'generalizability' as a quality and evaluation criterion for design research. This questioning, although rooted in similar beliefs about the contingency of human endeavour, has different aims. In open-ended situations, where no outcome has been determined, design needs to project forward, to consider new possibilities. Chow (2008) employs a Jonasian Toolkit to argue that case study is only useful to the analytical stage of designing but leaves the projective stage untouched, however the reverse could be said for her proposal on case transfer. The work of Verganti and Öberg (2013) may begin to tentatively bridge what Chow perceives to be the gap between analysis and projection – or what Verganti and Öberg term the interpretation (Case Study) and envisioning (Case Transfer) that is required for the 'radical innovation of product meanings.' They employ a hermeneutic framework to explore innovation and there appears to be some crossover between this approach and some of the aims of Case Transfer. Consideration of both of these approaches and frameworks informs the development of case study methodology within the doctoral research described above.

The researchers are seeking to ensure a dialogue with people is integrated into design research in a seamless way, from conception to completion and engagement with the public. An objective of V&A Dundee is to communicate the transformational capability of design and shift the popular understanding of design in the marketplace from an artifact to a force for sustained economic and cultural growth. The two doctoral projects are therefore working with this in mind.

Conclusion: values emerging from the collaborative research

A largely unspoken component in this concept development project is the underpinning values. For this research and these authors, there is no precedent to fall back on and/or reference for guidance: it is a complex environment to navigate; one filled with both high opportunity and risk. The research offers an experiential and practical base from which shared values have developed and through experience and deep learning, we note the emphasis on value falls from the artifact or product of design towards the values underpinning design as a series of strategic processes. The emerging values from this collaborative research journey are design, innovation, partnership, people, trust and resonance:

Design as “a problem solving process of conceptualisation and planning, concerned with the integration of technical, [material] and aesthetic issues existing within a social, cultural and philosophical framework” (Valentine, 2009, p 156, drawing on the work of Richard Buchanan, 1998; Clive Dilnot, 1998; Tony Fry, 1999, 2009; Klaus Krippendorff, 1998, 2006 and Victor Margolin, 1998). The collaborative research explores design as a core business competency; a visioning tool shaping company developments for achieving sustained growth.

Innovation as “collaboration between diverse organizations and individuals, the result of which is organizational learning” (Brown, 2008); the creation of genuinely new products and services classed as radical in nature (Kaiman & Schwartz, 1982), incremental improvements on existing designs (Phillips, 1966) and the introduction of existing ideas, products and services to new markets or organisations (Drucker, 1985). Particularly important is the definition of innovation as a process and a series of relationships: an on-going practice involving the creation and sharing of new knowledge, new collaborations and new ways of working (Tidd, Bessant & Pavitt, 2005). In thinking differently about the complex problems of today’s world and the way design permeates it, collaboration and partnership based design research seeks to challenge assumptions by seriously playing with ideas to offer innovative solutions that inspire people and businesses to achieve sustained creative, cultural and economic wellbeing.

Partnership as an act of mindfulness; the ability to listen deeply, observe attentively and question critically the actions, information, knowledge and personal expertise unfolding through dialogue (Valentine, 2004; 2011). In this quest to develop a sustained partnership, a new inter-agency and trans-disciplinary model (or collaboration between Academia, Industry and Public Agencies), mindfulness is nurtured as a central tenet. Partnership is not viewed as a panacea for the design and delivery of complex policy, although policy development may be an outcome.

People are the lifeblood of our work; they are the central connectors in our research and the most precious investment for achieving the design research aspirations. Without people’s willingness to engage honestly and ethically, progress is inhibited (Peat, 2008). Trust is the base upon which honesty and ethical engagement are built and why trust is also a value underpinning collaborative research.

Trust as a critical tool for creating and sustaining working relations; as David Peat notes, “Trust...is the glue that holds society together, alive and functional. Without trust, our institutions would collapse” (Peat, 2008, p 106). Trust being compromised is one of the highest risks in collaborative research. Trust is nurtured at every stage, for example, by providing a respectful attitude and environment where ideas can be developed and discussed, using ways of working that bring together people with widely different experiences and expertise to facilitate effective solutions to highly complicated problems.

Resonance with the real world is a sixth value as it allows a measurement of effectiveness with regards design research and researcher's engagement with culture and society to identify, facilitate and demonstrate innovation. Enterprise and the transformative process of prototyping with the marketplace over a sustained period of time will be one way of measuring impact for collaborative design research.

In presenting the values underpinning this design research, communication of why it operates the way it does *and* the influence this has on how design is undertaken, access to its relevance can, for some, be opened further. Indeed, it is perceived that the values underpinning design and-or design research can provide a framework from which to evaluate performance and to understand how, where and what changes are needed in future iterations of design as a series of inter-connected strategic tools and-or innovative processes. Looking ahead, the six individual values (identified to date) can be used to measure performance, but of arguably greater concern will be in understanding the relationships and inter-relationships between the values, and the emerging constellations they create.

Notes

[1] Design Dundee Ltd is driving V&A Dundee and Design Dundee Ltd is a registered Scottish Charity, No: SC041219. Design Dundee Ltd is a partnership between the V&A, the University of Dundee, the University of Abertay Dundee, Dundee City Council and Scottish Enterprise. Professor Philip Long is the Director of V&A Dundee. For further information: <http://www.VandAatDundee.com>.

[2] The method of exhibition for conducting research as well as communicating craft and design innovation was central to the practice-led study and the first major exhibition was called, 'Future Craft: Celebrating Diversity' and held in 2007. It showcased the work of 27 international practitioners (individuals and groups) with over 250 examples of visual craft practice. Central to the exhibition was an invitation to the viewer to touch and physically engage with the work, and to explore the relation between word and image as a way of communicating the innovation within the process and product of a designer's thinking. Proceedings of the exhibition were published. Follett, G., Moir, S & Valentine, L. [Eds.] *Future Craft: Celebrating Diversity*. Dundee: Duncan of Jordanstone College of Art & Design. Further information can be found at <http://futurecraft.dundee.ac.uk> Accessed 12 March 2014.

[3] The doctoral awards are supported by the ESRC capacity building cluster, "Capitalising on Creativity", grant #res 187-24-0014 administered by the University of St Andrews, and conducted at Duncan of Jordanstone College of Art and Design, University of Dundee, UK.

[4] The site mobilisation of V&A Dundee is planned to commence in August 2014. It is anticipated the building will complete in late 2016, with the first full year of programming in 2017.

[5] Robert Yin's classic textbook *Case Study Research: Design and Methods* is now in its fourth edition, having first been published in 1984

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